

Transistors

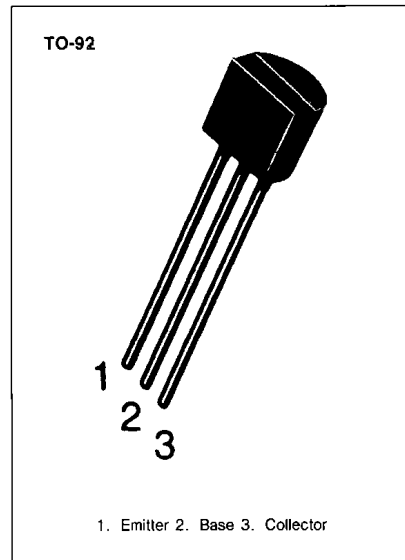
2N5089

AMPLIFIER TRANSISTOR

- Collector-Emitter Voltage: $V_{CE0} = 2N5089: 25V$
- Collector Dissipation: $P_C (max)=625mW$

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	4.5	V
Collector Current	I_C	50	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~150	$^{\circ}C$



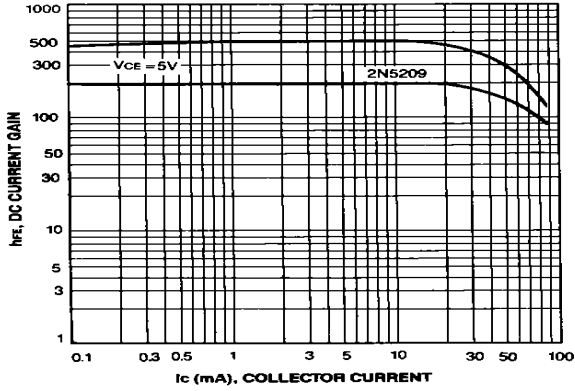
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
* Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$				
* Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1mA, I_B=0$	30			V
Collector Cut-off Current	I_{CBO}		25			V
Base Cut-off Current	I_{EBO}	$V_{CB}=15V, I_E=0$ $V_{BE}=3V, I_C=0$ $V_{BE}=4.5V, I_C=0$			50	nA
DC Current Gain	h_{FE}		400		1,200	
Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_C=10mA, I_B=1mA$			0.5	V
* Base-Emitter Saturation Voltage	$V_{BE (on)}$	$I_C=10mA, V_{CE}=5V$			0.8	V
Collector-Base Capacitance	C_{CB}	$V_{CB}=5V, I_E=0$ $f=100KHz$			4	pF
Current Gain Bandwidth Product	f_T	$V_{CE}=5V, I_C=500\mu A$ $f=20MHz$	50			MHz
Noise Figure	N_F	$V_{CE}=5V, I_C=100\mu A$ $R_S=10K\Omega$ $f=10Hz$ to $15.7KHz$			2	dB

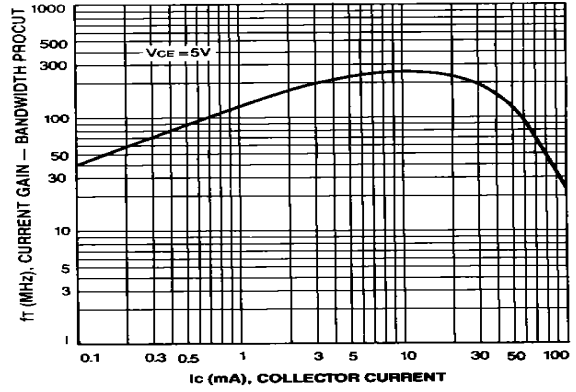
* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$



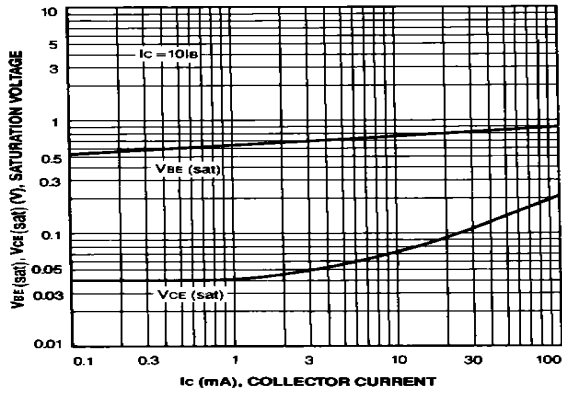
DC CURRENT GAIN



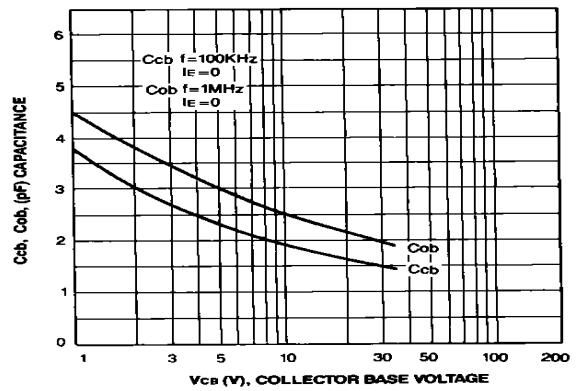
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE
COLLECTOR-BASE CAPACITANCE



NOISE FIGURE

